

**Department of Applied Psychology  
Arizona State University - Polytechnic  
PSY 437, Fall 2006  
Human Factors**

Time: Tues. & Thurs. 10:30– 11:45  
Place: AGBC 150  
Office Hours: Tues. & Thurs. 1:00 – 2:00

Professor: Russell Branaghan  
Office:  
Phone:  
Email:

**Course Description**

Human factors studies and applies knowledge from all human sciences to improve the match between people and the world through the design of products, processes and environments. This includes knowledge of human behavior, human limitations and other characteristics. This class emphasizes human factors in high-technology systems. Specific topics include systems development, systems analysis techniques, displays, and controls.

**Prerequisites**

Both PSY 290 and upper-division standing or instructor approval.

**Course Objectives**

- Introduce human factors methods, principles and guidelines
- Introduce how human factors integrates into the product design cycle
- Explain basics of (and implications of)
  - Cognition (attention, memory, decision-making, problem solving)
  - Perception (vision and hearing)
- Introduce major HF topics
  - Control and display design
  - Human-computer interaction
  - Job and task design
  - Transportation human factors
  - Biomechanics and anthropometry
  - Design for people with differing needs
- Direct you to other learning resources

**Textbook**

The textbook for this class is An Introduction to Human Factors Engineering by Wickens, C.D., Lee, J.D., Liu, Y., Gordon Becker, S. E.. Upper Saddle River, NJ: Prentice Hall.

**Grading**

	Date	Points
Exam 1	9/21	25
Exam 2	10/26	25
Final	Week of 12/5	50

Day	Topics	Reading to be completed <b>before</b> class
8/22	Introduction	
8/24	Introduction	Pages 1-8
8/29	Research Methods	Pages 10-23
8/31	Research Methods	Pages 24-28
9/5	Design and Evaluation Methods	Pages 30-49
9/7	Design and Evaluation Methods	Pages 50-60
9/12	Vision	Pages 61-73
9/14	Vision	Pages 74-89
9/19	Audition	Pages 91-116
9/21	<b>Exam 1</b>	
9/26	Information Processing, Attention & Perception	Pages 120-128
9/28	Memory	Pages 128-143
10/3	Memory	Pages 128-143
10/5	Situation Awareness	Pages 144-145
10/10	Decision-Making	Pages 156-183
10/12	Displays	Pages 184-198
10/17	Displays	Pages 198-217
10/19	Control	Pages 218-226
10/24	Control	Pages 227-239
10/26	<b>Exam 2</b>	
10/31	Anthropometry/Workspace Design	Pages 243-268
11/2	Biomechanics	Pages 269-296
11/7	Stress and Workload	Pages 324-349
11/9	Safety, Accidents and Human Error	Pages 351-366
11/14	Safety, Accidents and Human Error	Pages 369-382
11/16	Human Computer interaction	Pages 383-403
11/21	Human Computer Interaction	Pages 404-417
11/23	Transportation HF	Pages 436-457
11/28	Transportation HF	Pages 458-465
11/30	Social Factors	Pages 492-505
Week of 12/5	<b>Final Exam</b>	